

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Canceled)

2. (Currently amended) A method, comprising:

storing a portion of sound data in a memory buffer of a computer;

dividing the portion of sound data into a plurality of frequency ranges;

analyzing each frequency range to determine one or more sound features corresponding to
at least one of the frequency ranges; the portion of sound data using heuristics to identify at least
one sound feature from the portion of sound data, the analyzing including identifying at least one
frequency component of a sound feature, the at least one frequency component being from a first
frequency range; and

executing at least one haptic effect based on one or more of the at least one sound features
the haptic effect being associated with the portion of sound data.

3. (Canceled)

4. (Currently amended) The A method of claim 2 wherein the, comprising:

storing a portion of sound data is divided into in a memory buffer of a computer;

analyzing the portion of sound data using heuristics to identify at least one sound feature
from the portion of sound data, the analyzing including separating the portion of sound data into
a plurality of frequency components associated with a plurality of frequency ranges by applying a
plurality of filters to the portion of sound data, and identifying a sound feature associated with at
least one frequency component from the plurality of frequency components; and

-executing at least one haptic effect based on the at least one sound feature, the haptic
effect being associated with the portion of sound data.

5. (Previously Presented) The method of claim 4, the plurality of filters having at least:

a low-pass filter; and

a high-pass filter.

6. (Previously Presented) The method of claim 4, the analyzing including: separating the portion of sound data into a plurality of frequency components associated with a plurality of frequency ranges using a fast Fourier transform (FFT).

7. (Previously Presented) The method of claim 6, wherein a number of outputs from the fast Fourier transform are grouped to provide sound features associated with each frequency range from the plurality of frequency ranges.

8. (Canceled)

9. (Canceled)

10. (Previously Presented) The method of claim 2, wherein the at least one haptic effect was previously mapped to the at least one sound feature.

11 – 21. (Canceled)

22. (Currently amended) A computer readable medium having code stored thereon, the code comprising:

code to store a portion of sound data in a memory buffer of a computer;
code to divide the portion of sound data into a plurality of frequency ranges;
code to analyze each frequency range to determine one or more sound features
corresponding to at least one of the frequency ranges; the portion of sound data using heuristics
to identify at least one sound feature from the portion of sound data, the analyzing including
identifying at least one frequency component of a sound feature, the at least one frequency
component being from a first frequency range; and

code to execute at least one haptic effect based on one or more of the at least one sound
features the haptic effect being associated with the portion of sound data.

23. (Previously Presented) The computer readable medium of claim 22, wherein at least one haptic effect is associated with the at least one frequency component.

24. (Currently amended) The A computer readable medium of claim 22 wherein the having code stored thereon, the code comprising:

~~code to store a portion of sound data is divided into in a memory buffer of a computer; code to analyze the portion of sound data using heuristics to identify at least one sound feature from the portion of sound data, the code to analyze including code to separate the portion of sound data into a plurality of frequency components associated with a plurality of frequency ranges by applying a plurality of filters to the portion of sound data, and code to identify a sound feature associated with at least one frequency component from the plurality of frequency components; and~~

~~code to execute at least one haptic effect based on the at least one sound feature, the at least one haptic effect being associated with the portion of sound data.~~

25. (Previously Presented) The computer medium readable of claim 24, the code to analyze including code to separate the portion of sound data into a plurality of frequency components associated with a plurality of frequency ranges using a fast Fourier transform (FFT).

26. (Canceled) The computer readable medium of claim 24, wherein the code to analyze is operative to associate each frequency component from the plurality of frequency components with a haptic effect.

27. (Previously Presented) The computer readable medium of claim 22, wherein the at least one haptic effect was previously mapped to the at least one sound feature.

28. (Currently amended) An apparatus, comprising:

means for storing a portion of sound data in a memory buffer of a computer;
means for dividing the portion of sound data into a plurality of frequency ranges;
means for analyzing each frequency range to determine one or more sound features corresponding to at least one of the frequency ranges; the portion of sound data using heuristics to identify at least one sound feature from the portion of sound data, the analyzing including identifying at least one frequency component of a sound feature, the at least one frequency component being from a first frequency range; and

means for executing at least one haptic effect based on one or more of the ~~at least one~~ sound features ~~the haptic effect being associated with the portion of sound data.~~